



**The *Other* Opioid Crisis: Heroin and Fentanyl**

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**Disclosures**

- Nothing to Disclose



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**Learning Objectives**

- Describe the opioid overdose crisis in the United States today
- Discuss common beliefs and inconsistencies about the role of prescription opioids in the opioid crisis
- Identify the intersection of illicit drug use and clinical pain practice in today's "opioid epidemic"
- Provide clinically relevant recommendations for navigating the current landscape without depriving pain care to patients in need



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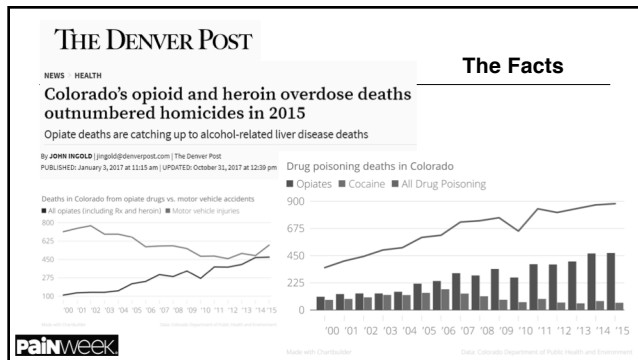
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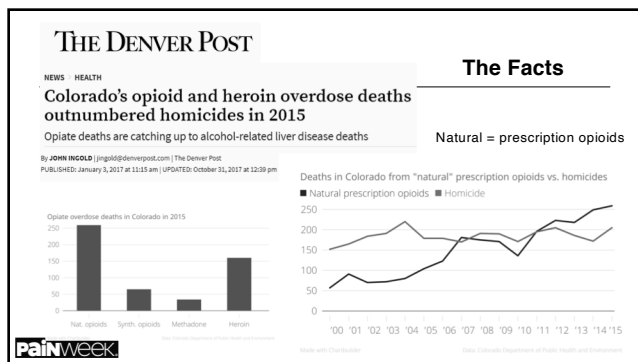
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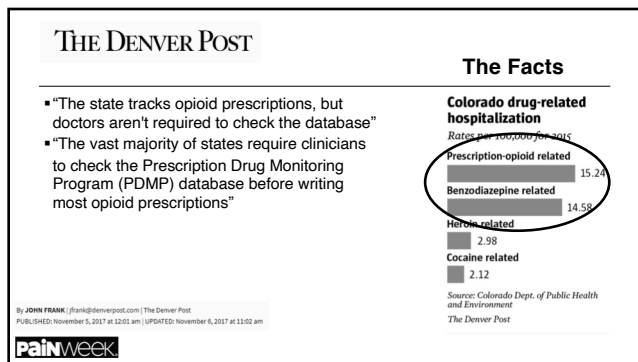
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**THE DENVER POST**

## The Facts

A crackdown on overprescribing isn't enough — drug treatment options remain a challenge.

According to policymakers, Colorado's initial efforts to restrict opioid prescriptions may have an unintended effect: pushing addicts to opioids such as heroin or fentanyl. The trend is spotlighting the limited treatment options for drug users who want help.

**Colorado heroin-related overdose deaths**  
Heroin deaths have increased by more than 500 percent since 2006.

Year	Deaths
2006	37
'07	39
'08	45
'09	68
'10	46
'11	79
'12	91
'13	118
'14	151
'15	160
'16	228

Source: Colorado Dept. of Public Health and Environment

By JOHN FRANK | frank@denverpost.com | The Denver Post  
PUBLISHED: November 5, 2017 at 12:05 am | UPDATED: November 6, 2017 at 11:02 am

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**THE DENVER POST**

## The Facts

Doctors will soon get opioid prescription "report cards."

To educate doctors about the dangers of overprescribing opioids, Colorado is testing a relatively new idea that is showing early results — prescriber report cards.

The reports, also known as scorecards, will give clinicians a summary of their prescriber history and how they rank with their peers in the same specialty in terms of dosage, duration and type of drug.

**Colorado opioid-related deaths**  
Rate per 100,000 for 2006

Category	Rate per 100,000 for 2006
Male	11.3
Female	4.3
25 to 34 years	12.0
35 to 44 years	16.3
45 to 64 years	12.6
65+ years	4.7
White, non-Hispanic	9.6
White, Hispanic	0.3
Black/African American	4.0
Asian/Pacific Islander	1.2
American Indian	4.7

Source: Colorado Dept. of Public Health and Environment

By JOHN FRANK | frank@denverpost.com | The Denver Post  
PUBLISHED: November 5, 2017 at 12:05 am | UPDATED: November 6, 2017 at 11:02 am

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“The idea is that prescribers might be prescribing more than average for their particular specialty”

“They’ll say ‘Oh, I better look at things more closely”

“What we are hoping to see is a change in prescriber behavior”

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**Baltimore City's Response to the Opioid Epidemic**

## The Facts

The Baltimore City Health Department (BCHD) is dedicated to preventing overdose deaths in Baltimore City. Opioid overdose is a public health crisis. In 2017, Baltimore City saw 761 drug and alcohol-related intoxication deaths, 692 of which were opioid-related. This is more than double the number of people who died of homicide. Baltimore City now has the highest overdose fatality rate of any city in the United States.

**Baltimore City Health Department**

BCHD has a three-pronged strategy for combating the opioid crisis:

- Save lives with naloxone** — When administered to an individual experiencing an overdose, this antidote medication can take them from near death to waking and taking a number of minutes. The first step in fighting the opioid crisis is to have responders having fun today by getting naloxone into the hands of first responders and bystanders who **know about our naloxone program, including the State's standing order, where to get naloxone, how to get trained, and more—here.**
- Increase access to on-demand, evidence-based treatment** — BCHD promotes evidence-based medication-assisted treatment (MAT), along with social and engagement services to treat the disease of opioid addiction. **For more information on where to receive treatment, treatment programs and partnerships, and more, click here.**
- Fight the stigma of addiction through education** — Addiction is a disease. Similar to heart disease, addiction is preventable and treatable. **For more information on fighting the stigma of addiction and educational materials about addiction, click here.**

Accrued September 16, 2019.

By JOHN FRANK | frank@denverpost.com | The Denver Post  
PUBLISHED: November 5, 2017 at 12:05 am | UPDATED: November 6, 2017 at 11:02 am

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### Important Societal Questions

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### Bill of Rights for People with Chronic Pain

#### Is the Current Climate Living up to Promises Made in the Past?

Does the chronic pain patient still have rights?

Is this a problem about chronic pain patients abusing prescription pain medications?

- The right to have your report of pain taken seriously and to be treated with dignity and respect by doctors, nurses, pharmacists and other healthcare professionals.
- The right to have your pain thoroughly assessed and promptly treated.
- The right to be informed by your doctor about what may be causing your pain, possible treatments, and the benefits, risks and costs of each.
- The right to participate actively in decisions about how to manage your pain.
- The right to have your pain re-assessed regularly and your treatment adjusted if your pain has not been eased.
- The right to be referred to a pain specialist or other healthcare provider if your pain persists.
- The right to get clear and prompt answers to your questions, take time to make decisions, and refuse a particular type of treatment if you choose.

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## THE DENVER POST

NEWS HEALTH

### Chronic pain patients say they are hurt by Colorado's opioid prescription guidelines

Some Colorado doctors are refusing to prescribe opioids to chronic pain sufferers



Now, across Colorado and the rest of the nation, these policies intended to address opioid abuse have unexpectedly harmed patients who depend on the drugs to treat chronic conditions, pain specialists and patient advocates say. The policies are supposed to offer guidance — helpful advice to doctors to be cautious in prescribing more than a certain amount of opioids to any one patient.

Officials at the Colorado Department of Regulatory Agencies are looking at revising the guidelines. The Colorado Consortium for Prescription Drug Abuse Prevention, a group of medical and drug experts, is also working on ideas to protect pain patients while cracking down on opioid abuse.



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**CDC** Centers for Disease Control and Prevention  
CDC 24/7 Saving Lives. Protecting People™

Understanding the Epidemic

**The Facts**

Record Overdose Deaths | Heroin Use | Preventing Overdose Deaths

Drug overdose deaths in the United States continue to increase in 2015

- The majority of drug overdose deaths involve an opioid<sup>1</sup>
- Since 1999 the # of overdose deaths quadrupled<sup>2</sup>
  - Prescription opioids
  - Heroin
- 108 Americans die every day from an opioid overdose

↓

~130 in 2019

1. Rudd RA, Seth P, David F, Schell L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015. *MMWR Morb Mortal Wkly Rep*. 4P:46. 18 December 2016. DOI: <http://dx.doi.org/10.1093/mmwr.mm6520e1>  
2. CDC. Widespread misuse data for opioid drugs: research. (NORXIS). Atlanta, GA: CDC, National Center for Health Statistics; 2016. Available at <http://www.cdc.gov>.

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Understanding the Epidemic

**The Facts**

Record Overdose Deaths | Heroin Use | Preventing Overdose Deaths

Heroin use is trending up

- From 2002-2013, past month/year heroin use and addiction have all increased among 18-25 year olds<sup>1</sup>
- Among new heroin users, 75% report abusing prescription opioids prior to using heroin<sup>2</sup>
- Heroin-related deaths more than tripled from 2010-2015
  - The largest increase was for those heroin-related deaths involving synthetic opioids - FENTANYL

1. Centers for Disease Control and Prevention. Demographic and Substance Use Trends Among Heroin Users — United States, 2003–2013. *MMWR* 2015. 64(2):719-725  
2. Mahesh PK, Ghossein JC, Davies C. Associations of nonmedical pain reliever use and initiation of heroin use in the United States. *CNSDRG Data Review*. 2013.

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**The New York Times** Short Answers to Hard Questions About the Opioid Crisis

**The Facts: Times are Changing**

- Characteristics of Opioid Drug Overdoses:
  - Fast
  - Deadly
  - Scary
  - Socioeconomic status – neutral
  - Abuse-history – neutral
  - Increasing exponentially

Source: National Center for Health Statistics, Centers for Disease Control and Prevention

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**The Clinical Implications**

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Record Overdose Deaths    Heroin Use    **Preventing Overdose Deaths**

- Improved opioid prescribing
- Expanded access to substance abuse treatment
- Naloxone
- Prescription Drug Monitoring Programs (PDMPs)
- State-level strategies to prevent high risk prescribing and opioid overdoses
- Improved detection of illegal opioid use by law enforcement

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**The Facts**

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Statistically significant drug overdose death rate increase from 2015 to 2016, US states

- Opioids (prescription *and* illicit) are main drivers
- 5 highest states:
  - West Virginia
  - Ohio
  - New Hampshire
  - Pennsylvania
  - Kentucky

Statistically significant increase

Statistically significant increase from 2015 to 2016

No  
 Yes

SOURCE: CDC/NCHS, National Vital Statistics System, Mortality  
<https://www.cdc.gov/drugoverdose/data/statedeath.html>. Accessed January 20, 2018.

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**The “Other” Epidemic**

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### Heroin

- Highly addictive
- It is an opioid
- Made from morphine
  - ~3 times more potent
- A natural substance
  - Extracted from the opium poppy plant
    - Asia
    - Mexico
    - Colombia

### The Facts

**PainWeek** https://www.drugabuse.gov/what-are-the-facts/heroin. Accessed January 22, 2018.

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### Understanding the Epidemic

### The Facts

- Heroin use has been increasing<sup>1</sup>
  - Men
  - Women
  - Most age groups
  - All income levels
- Past misuse/abuse of prescription opioids is the strongest risk factor for starting heroin<sup>2</sup>

	2002-07	2008-12	% Change
<b>SEX</b>			
Male	2.4	3.8	58%
Female	0.8	1.8	100%
<b>AGE YEARS</b>			
18-24	1.8	1.8	0%
25-34	3.5	2.3	-36%
35 or older	1.2	1.9	58%
<b>RACE/ETHNICITY</b>			
Non-Hispanic white	1.4	3.1	114%
Other	2	1.7	-15%
<b>ANNUAL HOUSEHOLD INCOME</b>			
Less than \$2,000	3.4	5.5	62%
\$2,000-\$4,999	1.3	2.3	77%
\$5,000 or more	1	1.6	60%
<b>HEALTH INSURANCE COVERAGE</b>			
None	4.2	6.7	60%
Medicaid	4.2	6.7	60%
Private or other	0.8	1.3	63%

<sup>1</sup> Centers for Disease Control and Prevention. Vital Signs: Today's Heroin Epidemic – More People at Risk, Multiple Drugs Abused. MMWR 2015.  
<sup>2</sup> Compton W.W., Jones CM, and Ballewin GT. Understanding the Relationship between Prescription Opioid and Heroin Abuse. NEJM.

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### CDC Vital Signs July 2015

### The Facts

#### The Heroin Epidemic

Heroin use is part of a larger substance abuse problem.

Nearly all people who used heroin also used at least 1 other drug.

Most used at least 3 other drugs.

Heroin is a highly addictive opioid drug with a high risk of overdose and death for users.

People who are addicted to...  
 ALCOHOL 2x, MARIJUANA 3x, COCAINE 15x, OXYPICOID PRESCRIPTIONS 40x...  
 ...more likely to be addicted to heroin.

#### Heroin Addiction and Overdose Deaths are Climbing

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NIH National Institute on Drug Abuse Research Report Series

"The relationship between prescription opioid abuse and increases in heroin use in the U.S. is under scrutiny. These substances are all part of the same opioid drug category and overlap in important ways"



1. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.  
 2. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.

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NIH National Institute on Drug Abuse Research Report Series **The Facts**

▪ "Current" ~ 2013-2015 research regarding prescription opioids and heroin shows:

- Prescription opioid abuse *is* a risk factor for heroin use
- Heroin use is *rare* in prescription drug abusers (<4% start within 5 years)
- Although similar effects, risk factors are different
- A subset of people who abuse prescription opioids may progress to heroin use
- Availability of drug(s) is associated with increased use and overdose
- Heroin use is driven by cost advantage and availability
- Emphasis is needed on prevention and treatment

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1. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.  
 2. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.

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NIH National Institute on Drug Abuse Research Report Series **The Facts**

▪ And...

- "Analyses suggest that those who transition to heroin use tend to be frequent users of **multiple substances** (polydrug users)"

- Jones CM. Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers - United States, 2002-2004 and 2008-2010. *Drug Alcohol Depend.* 2013;132(1-2):95-100.

**A + B ≠ C**



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1. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.  
 2. <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.

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## The Facts

### Fentanyl

- Drug seizures involving fentanyl are going up dramatically

U.S. DEPARTMENT OF JUSTICE - DEPARTMENT OF JUSTICE  
DIVISION CONTROL DIVISION  
**NFLIS** NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM  
NFLIS Brief: Fentanyl, 2001-2015  
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## The Facts

### Fentanyl

- Defined geographic distribution

U.S. DEPARTMENT OF JUSTICE - DEPARTMENT OF JUSTICE  
DIVISION CONTROL DIVISION  
**NFLIS** NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM  
NFLIS Brief: Fentanyl, 2001-2015  
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## The Facts

### The Chinese Connection Fueling America's Fentanyl Crisis

A vast network beginning in China feeds fentanyl, a deadly synthetic opioid, to the U.S., Mexico and Canada

By JEANNE WHALEN and BRIAN BRIGGS  
Updated June 23, 2016, 1:44 p.m. ET

**Criminal Chemistry**  
It's hard to manufacture fentanyl often purchase the key ingredient from China, which doesn't regulate its sale. Here's how the chemical building blocks become a highly profitable street drug.

The key ingredient is NPP, 25 grams of which can be bought from China for about \$87.

NPP can be combined with about \$720 of other chemicals to produce fentanyl.

The resulting 25 grams of fentanyl cost about \$100.

That's the equivalent to up to 100,000 of pills on the black market.

\*Fentanyl is a Schedule II controlled substance. Source: FBI, U.S. Drug Enforcement Administration. Photo: AP/WIDEWORLD. THE WALL STREET JOURNAL.

- Fentanyl can be manufactured anywhere
- Synthetic
- N-Phenethyl-4-piperidinone is NPP
- Intermediate precursor to fentanyl
- It is cheap
- It is not going anywhere

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**NFLIS** NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM  
NFLIS Brief: Fentanyl, 2001-2015  
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### Terminology The Facts

- A very small amount of fentanyl is potentially fatal
- This applies to **licit or illicit** fentanyl
  - Illicitly manufactured fentanyl is likely no more dangerous than legally manufactured fentanyl
- Fentanyl label:
  - FENTANYL CITRATE SHOULD BE ADMINISTERED ONLY BY PERSONS SPECIFICALLY TRAINED IN THE USE OF INTRAVENOUS ANESTHETICS AND MANAGEMENT OF THE RESPIRATORY EFFECTS OF POTENT OPIOIDS
  - AN OPIOID ANTAGONIST, RESUSCITATIVE AND INTUBATION EQUIPMENT AND OXYGEN SHOULD BE READILY AVAILABLE
  - Fentanyl may cause muscle rigidity, particularly involving the muscles of respiration
  - DIMINISHED SENSITIVITY TO CO<sub>2</sub> STIMULATION MAY PERSIST LONGER THAN DEPRESSION OF RESPIRATORY RATE



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### A Fentanyl Crisis The Implications



**Fatal fentanyl overdoses, by county**



**In 24 of the nation's largest cities fatal fentanyl-related overdoses increased 600% from 2014-2016**



**Fatal fentanyl overdoses per 100,000**



**The Washington Post**

*Fentanyl linked to thousands of urban overdose deaths*

As has done in the nation's largest cities, fentanyl is becoming a major part of the national opioid crisis. By Bruce Lipton, Anne Schuchman, and Sarahback and Emily Lerner Aug. 15, 2017

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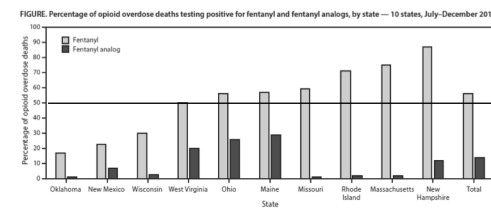
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### Increasing Fentanyl Overdoses The Facts

FIGURE. Percentage of opioid overdose deaths testing positive for fentanyl and fentanyl analogs, by state — 10 states, July-December 2016



State	Fentanyl (%)	Fentanyl analog (%)
Oklahoma	~15	~5
New Mexico	~25	~5
Wisconsin	~30	~5
West Virginia	~45	~10
Ohio	~55	~15
Maine	~55	~15
Missouri	~60	~10
Rhode Island	~70	~5
Massachusetts	~75	~5
New Hampshire	~85	~10
Total	~55	~15

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### Different Types of Fentanyl and Presentations

▪ Different formulations and varying potencies:

- Fentanyl
- Analogos
  - Acetyl Fentanyl
  - Oxycodone
  - Carfentanyl
  - Remifentanyl
  - Alfentanil
  - Sufentanil
  - Fentanyl



▪ Presentations

- Powder
- Counterfeit pills
- Etc.




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### Carfentanyl

### The Facts

- Synthetic
- Large animal anesthetic
- 100 times more potent than fentanyl
- 10,000 times more potent than morphine
- Airborne/skin exposure often fatal
  - 2012 Moscow Theater Hostage Crisis



Members of the Russian Federal Security Service (FSB) in a training exercise in June 2009, after the military police of the Russian Ministry of Defense (MoD) in Moscow, Russia. Photo: Reuters/Associated Press




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### The Facts

- Fentanyl in the wrong hands is deadly
- Potentially contributing significantly to overdose/fatal overdose risk
- Analogos not often tested for in routine toxicology testing
- Naloxone is a **bridge** to survival but not a final solution
  - Re-narcotization from fentanyl is common
  - Blunting of CO<sub>2</sub> response **will persist**
  - Diminished hypoxic drive may persist




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Centers for Disease Control and Prevention  
**MMWR** Morbidity and Mortality Weekly Report  
 Weekly / Vol. 68 / No. 34 August 30, 2019

**Changes in Opioid-Involved Overdose Deaths by Opioid Type and Presence of Benzodiazepines, Cocaine, and Methamphetamine — 25 States, July–December 2017 to January–June 2018**

R. Marc Gladden, PhD<sup>1</sup>, Julie O'Donnell, PhD<sup>1</sup>, Christine L. Hanson, PhD<sup>1</sup>, Paul Soto, PhD<sup>2</sup>

**Three major changes in opioid deaths from July–December 2017 to January–June 2018 were identified:**

- Overall decreases in opioid overdose deaths
- Decreases in both prescription opioid deaths without co-involved illicit opioids and non-IMF<sup>1</sup> illicit synthetic opioids (i.e., fentanyl analogs and U-series<sup>2</sup> drugs) deaths
- Increases in IMF deaths, especially those with heroin, fentanyl analogs or non-opioid drugs
- **At least one non-opioid drug** (benzodiazepine, cocaine, or methamphetamine) was present in the majority of opioid deaths

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**SUMMARY**

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**The Co-existing Opioid Crises** The Facts

**PAIN MANAGEMENT AND THE OPIOID EPIDEMIC**  
 BALANCING SOCIETAL AND INDIVIDUAL BENEFITS AND RISKS OF PRESCRIPTION OPIOID USE

Commission on Pain Management and Regulatory Strategies to Address Prescription Opioid Misuse

**FDA U.S. FOOD & DRUG ADMINISTRATION**

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### We didn't Start the Fire...Or did We?

- Significant controversy exists to the relationship between prescription opioids and the heroin/fentanyl epidemic
  - Tracking back to prescribers
    - The 1990s when opioid prescribing increased
    - Pain being designated as the "5<sup>th</sup> vital sign" in 2000
    - Pain Bill of Rights
    - Evolution of "pill mills"
  - Related to cost and availability
    - Heroin and fentanyl are cheaper and stronger




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### Who and What is Our Responsibility?

We Are Involved Like it or Not

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### Does the United States Own The Problem??

- We are not alone
- This *is* a global issue
- In 2015, approximately ¼ billion people abused/misused drugs
  - ~ 29.5 million (0.6% of global adult population) engaged in problematic use/suffered from substance use disorder
- 70% of the global burden of disease caused by drug use disorders attributable to opioid use




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**However...**

**The Facts**

**Drug-related deaths remain highest in the U.S.**

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**Clinical Considerations and Implications**

▪ The "New Math" for determining opioid risk/benefit analysis

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**Final Thoughts**

- We must consider the parallel "opioid" crises that exist today
  - Our role in these problems
- Heroin and fentanyl are not going anywhere
- Remember the "New Math"
- Naloxone is likely something to keep top of mind
- Avoidance of "risky" situations is critical
- Strongly consider and document appropriate candidates for fentanyl-based therapies
- DO NOT CO-PRESCRIBE OPIOIDS and BENZODIAZEPINES
- Everyone is looking at us as an integral part of solving the "other" opioid crisis
- Everyone is looking to us to be a part of the solution to both crises

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## Final Thoughts

But... Let's not make patients "pay" for the other crisis



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*"Cure sometimes, treat often, comfort always."*  
— Hippocrates

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Questions?

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